

## CLAIMS

1. A synchronous motor comprising a rotor that is supported inside a housing so as to be rotatable about an output shaft and a stator disposed in a void surrounded by the rotor,

wherein a stator core is assembled so as to be dividable on both sides in an axial direction of a bobbin around which a coiled wire is wound.

2. A synchronous motor according to Claim 1, wherein magnetic pole acting surface portions of the stator core that oppose the rotor have different shapes on both sides of a central axis in a long-side direction of the stator core so as to be magnetically asymmetrical about the central axis.

3. A synchronous motor according to Claim 1, wherein the coiled wire is wound into a coil in advance using a winding jig and fitted into a channel portion of the bobbin.

4. A synchronous motor according to Claim 1, wherein the coiled wire is wound into a coil in advance and fitted into a channel portion of the bobbin, the channel portion being U-shaped in cross section by having an erected wall that surrounds a cylindrical winding center portion integrally formed via a bridging portion, and divided parts of the stator core are inserted into the winding center portion from both sides thereof in the axial direction and fitted together with front end portions thereof abutting.

5. A synchronous motor according to Claim 4, wherein the winding center portion is formed so as to protrude further outward than the erected wall, and a connecting substrate, on which a wiring pattern for connecting terminals of the coiled wire together is formed, is covered on both sides by insulating films and

fitted onto the winding center portion so as to be sandwiched by the stator core and the erected wall.

6. A synchronous motor comprising a rotor that is supported inside a housing so as to be rotatable about an output shaft and a stator disposed in a void surrounded by the rotor,

wherein a stator core is assembled so as to be dividable on both sides in an axial direction of bobbins around which coiled wires are wound and a connecting substrate for connecting the coiled wires together is disposed at facing surfaces of the bobbins.

7. A synchronous motor according to Claim 6, wherein magnetic pole acting surface portions of the stator core that oppose the rotor have different shapes on both sides of a central axis in a long-side direction of the stator core so as to be magnetically asymmetrical about the central axis.

8. A synchronous motor according to Claim 6, wherein the coiled wires are wound into coils in advance using a winding jig and fitted into channel portions of the bobbins.

9. A synchronous motor according to Claim 6, further comprising a linking plate that links and fixes together divided parts of the stator core that have been assembled from both sides through centers of the bobbins.

10. A synchronous motor according to Claim 6, wherein an inner circumferential surface of a rotor magnet that opposes a stator magnet is sinusoidally magnetized and a magnetic pole detection surface is trapezoidally magnetized.